

What is claimed is:

1. A circuit for temperature sensing, comprising:
 - a comparator circuit that is arranged to provide a trigger signal by comparing a reference signal to a temperature sensor signal;
 - a gate circuit that is arranged to provide an output signal by gating a gate input signal subject to control by a gate control signal, wherein the gate input signal is based at least in part on the trigger signal, and wherein the gate control signal is based at least in part on a power-on-reset signal; and
 - a hysteresis-and-output-sensor circuit that is configured to control the reference signal in response to a sensed signal, wherein the sensed signal is based at least in part on the output signal.
2. The circuit of Claim 1, wherein the power-on-reset signal is the gate control signal.
3. The circuit of Claim 1, further comprising:
 - a timer circuit that is configured to provide a mute signal in response to the power-on-reset signal, wherein the mute signal is the gate control signal.
4. The circuit of Claim 3, wherein the timer circuit includes a one-shot timer circuit, wherein the one-shot timer circuit is configured to provide the mute signal such that the gate control signal such that the mute signal corresponds to an active logic level when a power supply signal is applied to the circuit, and for a pre-determined period of time thereafter; and such that the mute signal corresponds to an inactive level after the pre-determined period of time.
5. The circuit of Claim 1, wherein the sensed signal is the output signal, and wherein the gate input signal is the trigger signal.

6. The circuit of Claim 1, wherein the gate circuit is configured to provide the output signal such that a logic level of the output signal corresponds to a logic level of the trigger signal if the gate control signal corresponds to an inactive level, and the logical level of the output signal corresponds to a first logic level if the gate control signal corresponds to an active level.
7. The circuit of Claim 1, wherein the gate circuit includes an AND gate.
8. The circuit of Claim 1, wherein the comparator circuit is configured to provide the trigger signal such that the trigger signal corresponds to a first logic level if a voltage associated with the reference signal is greater than a voltage associated with the temperature sensor signal, and the trigger corresponds to a second logic level if the voltage associated with the reference signal is less than the temperature sensor signal.
9. The circuit of Claim 1, further comprising:
a reference circuit that is configured to provide the reference signal in conjunction with the hysteresis-and-output-sensor circuit,
wherein the hysteresis-and-output-sensor circuit is arranged to modify the reference signal if the hysteresis-and-output-sensor circuit is enabled, and wherein the hysteresis-and-output-sensor circuit is disabled if the output signal corresponds to a first logic level.
10. The circuit of Claim 9, wherein the reference circuit includes:
a resistor that is coupled to the hysteresis-and-output-sensor circuit and the comparator circuit; and
a current source circuit that is configured to provide a current to the resistor.
11. The circuit of Claim 10, wherein the hysteresis-and-output-sensor circuit is configured to provide a hysteresis current to the resistor if the output signal corresponds to the second logic level.

12. The circuit of Claim 10, wherein a resistance that is associated with the resistor is adjustable.
13. A method for temperature sensing, comprising:
activating hysteresis if a temperature-sensing condition has occurred; and
ensuring that the hysteresis is automatically inactive when the circuit is powering up.
14. The method of Claim 13, further comprising providing a reference signal, wherein activating the hysteresis includes modifying the reference signal, and wherein the hysteresis is active if the output signal corresponds to a first logic level.
15. The method of Claim 13, wherein ensuring includes
providing an output signal in response to a gate input signal and a gate control signal, wherein the gate control signal is derived from a power-on-reset signal, a logic level of the output signal corresponds to a logic level of the gate input signal if the gate control signal corresponds to an inactive level, and the logical level of the output signal corresponds to a first logic level if the gate control signal corresponds to an active level.
16. The method of Claim 15, further comprising:
comparing a temperature sensor signal to a reference signal; and
providing a trigger signal in response to the comparison, wherein the gate input signal is based at least in part on the trigger signal.
17. The method of Claim 15, wherein providing the output signal includes performing a logical AND function on the gate input signal and the gate control signal.
18. The method of Claim 15, further comprising:
applying a power supply signal; and
providing the gate control signal in response to the power-on-reset signal, wherein providing the gate control signal includes:

providing the gate control signal such that the gate control signal corresponds to an active logic level when the power supply signal is initially applied, and for a pre-determined period of time thereafter; and

providing the gate control signal such that the gate control signal corresponds to an inactive level after the pre-determined period of time.

19. The method of Claim 15, further comprising:

providing a first current; and

converting a reference current into the reference signal, wherein activating the hysteresis includes:

providing a hysteresis current if the output signal corresponds to a first logic level;

providing substantially no current if the output signal corresponds to a second logic level; and

providing the reference current by combining the first current and the hysteresis current.

20. A circuit for temperature sensing, comprising:

means for activating hysteresis if a temperature-sensing condition has occurred;

and

means for ensuring that the hysteresis is automatically inactive when the circuit is powering up.